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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/536,507

05/25/2005

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89930 (58575-315071)

6575

1333 7590 02/13/2008  
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EXAMINER

EOFF, ANCA

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

02/13/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/536,507	<b>Applicant(s)</b> BAUMANN ET AL.	
	<b>Examiner</b> ANCA EOFF	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Status***

1. Claims 1-14 are canceled. Claims 15- 27 are pending in the application.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15-23 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murota (US Pg-Pub 2003/0162130) in view of Kazama et al. (EP 0 738 928 B1) and in further view of Faust (US Patent 4,019,972).

With regard to claims 15, Murota discloses a photosensitive lithographic printing plate, wherein the lithographic printing plate comprises:

- a photosensitive layer, equivalent to the radiation-sensitive coating of the instant application, said photosensitive layer having as main components a photopolymerization initiation system and a compound having an addition-polymerizable ethylenically unsaturated double bond (par.0038-0042), and
- a support, preferably an aluminum support (par.0117).

The aluminum support is properly subjected to substrate surface treatment, said treatment comprising a step of forming surface roughness, by an electrochemical process involving chemical graining in a hydrochloric acid solution (par.0119-0120). The

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aluminum support is then subjected to anodization (par.0125) and to surface hydrophilization (par. 0132).

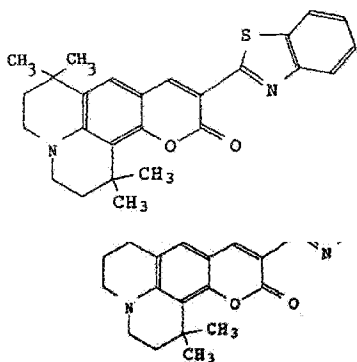
The photopolymerization initiation system in the photosensitive layer of Murota comprises a sensitizing dye (par.0046-0047), such as a coumarine dye, and a photopolymerization initiator, such as hexaryl biimidazoles or any other photopolymerization initiator known in the art (par.0084-0085)

However, Murota fails to disclose that the photosensitive layer comprises all the components of the radiation-sensitive layer as required by the instant application.

Kazama et al. disclose a composition useful for photoresist materials, for plates for printing (par.0001).

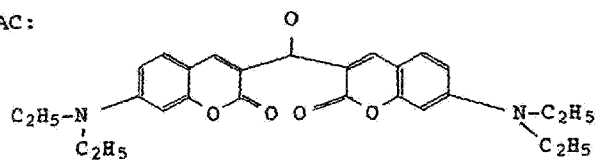
Kazama et al. disclose a visible-ray polymerizable composition comprising:

TBTC:

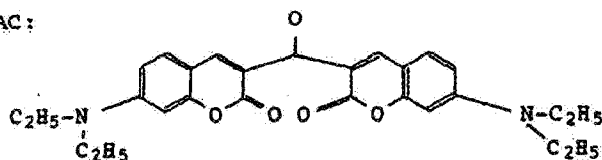


such as:

CDAC:



CDAC:



(compounds TBTC and CDAC on page 16). These compounds meet the limitations for the sensitizer represented by formula (I), being identical to the compounds (Ih) on page 12 and (Ij) on page 13 of the specification of the instant application.

Since the coumarin dye of Kazama et al. is identical to the to the compounds (Ih) on page 12 and (Ij) on page 13 of the specification of the instant application and, absent a record to prove the contrary, it is the examiner's position that the sensitizers of Kazama et al. are able to form free radicals when exposed to radiation and only in the present of a co-initiator. (MPEP 2112)

- co-initiators, such as a diphenyliodonium salt compound (par.0010 and par.0030).

The diphenyliodonium salts include chloride, bromide, tetrafluoroborate, hexafluorophosphate, hexafluoroarsenate, hexafluoroantimonate (par.0033).

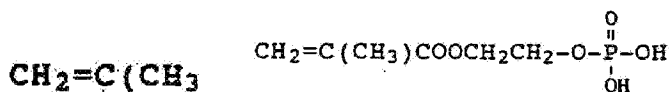
Because the diphenyliodonium compounds of Kazama et al. are identical to the iodonium salts used as co-sensitizers in the instant application, as disclosed on page 14 of the specification and, absent a record to show the contrary, it is the examiner's position that the diphenyliodonium salts of Kazama et al. are unable to absorb imaging radiation but, in the presence of a sensitizer that is exposed to imaging radiation, form free radicals. (MPEP 2112)

Other co-initiators disclosed by Kazama et al. are haloalkyl substituted s-triazines, such as 2,4,6-tris(trichloromethyl)-s-triazine, 2,4,6-tris(triboromomethyl)-s-triazine (par.0032).

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Because the haloalkyl substituted s-triazines of Kazama et al. are identical to the trihalomethyl-substituted triazines used as co-sensitizers in the instant application, as disclosed on page 17 of the specification and, absent a record to show the contrary, it is the examiner's position that the haloalkyl substituted s-triazines of Kazama et al. are unable to absorb imaging radiation but, in the presence of a sensitizer that is exposed to imaging radiation, form free radicals. (MPEP 2112)

- a polymerizable monomer (par.0011), such as



(page 11). This component is equivalent to the free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group.

- an organic solvent (par.0082).

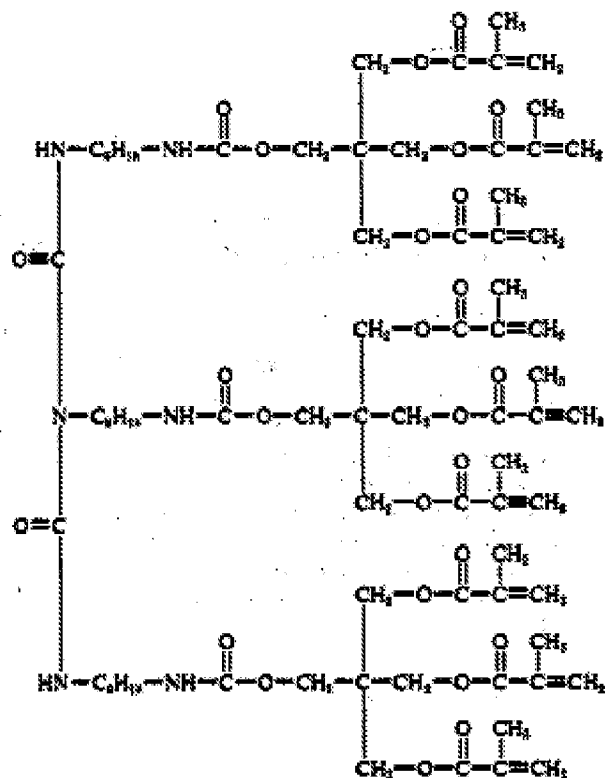
However, Kazama et al. fail to disclose that the polymerizable composition comprises a biuret oligomer as required by the instant application.

Faust et al. disclose photopolymerizable copying composition from which fluexible copying layers may be prepared (column 2, lines 2-3).

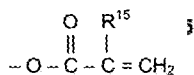
Faust discloses a photopolymerizable composition comprising at least one binder, one photoinitiator and at least one polymerizable acid amide group-containing acid derivative or alkyl acrylic acid derivative that contains two polymerizable groups in the molecule (abstract).

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Faust specifically discloses a polymerizable monomer having the formula :



(component (MVII) in columns 17-18), which is equivalent to the biuret oligomer represented by the formula (V) of the instant application, where  $Z_1$ ,  $Z_2$  and  $Z_3$  are  $C_9H_{18}$  groups,  $B_1$ ,  $B_2$  and  $B_3$  are independently groups represented by the formula (Va), where



$p=0$ ,  $q=1$ ,  $r=1$ ,  $s=1$  and  $R_{14}$  is a  $-O-C-C=CH_2$  group with  $R_{15}$  is a  $-CH_3$  group.

Due to the highly viscous photopolymerizable monomers having biuret groups contained therein, the composition yields layers which are distinguished by their non-volatility, resistance to handling and flexibility. The flexibility of the layers after exposure is not associated with excessive softness and cold-flow of the unexposed layer (column 5, lines 23-32).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to include the polymerizable monomers with biuret groups of Faust in the polymerizable composition of Kazama et al., in order to obtain compositions which are distinguished by their non-volatility, resistance to handling and flexibility (Faust, column 5, lines 23-32).

Modified Kazama teaches a polymerizable composition equivalent to the radiation-sensitive coating of the instant application. The polymerizable composition of modified Kazama may be used for form plates for printing (par.0001) and has sensitivity for visible-rays and exhibits excellent adhesiveness (par.0007).

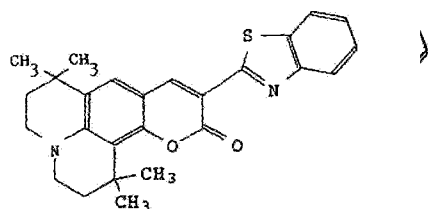
Therefore, it would have been obvious for one of ordinary skill in the art to use the polymerizable composition of modified Kazama as a photosensitive layer in the lithographic printing plate disclosed by Muroda in order to benefit of the sensitivity for visible-rays and the excellent adhesiveness property of the polymerizable composition (Kazama et al., par.0007).

With regard to claim 16, Kazama et al. further disclose that the visible-ray polymerizable composition further comprises other polymerizable monomers than the ones having the phosphoric acid group, such as fumaric ester compounds, styrene and a-methyl styrene derivatives, allyl compounds (par.0070). The composition also comprises fillers such calcium hydroxide, strontium hydroxide, zinc oxide, silicate glass and fluoroalumino-silicate glass (par.0077).

With regard to claim 17, Kazama et al. specifically disclose the coumarin dyes used in the polymerizable composition, such as:

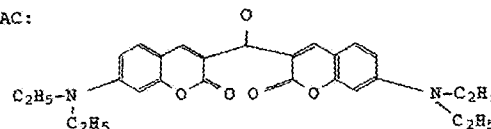


TBTC:



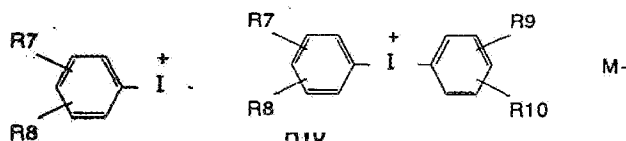
CDAC:

anc



(compounds TBTC and CDAC on page 16).

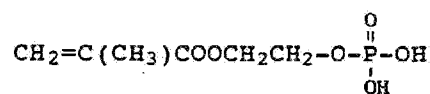
With regard to claim 18, Kazama et al. disclose that the photoacid generator is a diphenyliodonium salt with the formula:



(compound of formula(3) in par.0030), where R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub> are each independently a hydrogen atom, a halogen atom, an alkyl group, an aryl group, an aralkyl group, an alkenyl group and an alkoxy group and M<sup>-</sup> is a hydrohalogenic acid ion or a Lewis acid ion (par.0030). Kazama et al. specifically disclose chloride, bromide, tetrafluoroborate, hexafluorophosphate, hexafluoroarsenate, hexafluoroantimonate and trifluoromethane sulfonate of diphenyl iodonium, ditolyl iodonium, bis(tert-butylphenyl) iodonium, bis(m-nitrophenyl) iodonium (par.0033).

With regard to claim 19, Murota discloses that titanocenes (metallocenes with Ti, a metal of the fourth subgroup) can be used to increase the sensitivity of the coumarine-type sensitizer dyes (par.0081).

With regard to claim 20, Kazama et al. disclose that the polymerizable monomer is represented by the formula:





With regard to claim 23, Murota further discloses a method of making a lithographic printing plate comprising the following steps:

- forming a photosensitive layer on the support (par.0134);
- exposing the photosensitive printing plate to light (par.0146);
- developing to form an image (par.0158), said developing step being performed with an alkaline solution (par.0023, par.0206).

The plate-making process may involve heating on the entire surface of the lithographic printing plate before exposure, during exposure or between exposure and development as necessary. For the purpose of enhancing image intensity and press life, it is also effective to subject the image thus developed to entire post heating or entire exposure (par.0145).

With regard to claim 26, Murota further discloses a method of forming a photosensitive layer of the lithographic printing plate comprising the following steps:

- subjecting the aluminum support to substrate surface treatment, said treatment comprising a step of forming surface roughness, by an electrochemical process involving chemical graining in a hydrochloric acid solution (par.0119-0120). The aluminum support is then subjected to anodization (par.0125) and to surface hydrophilization (par. 0132);
- applying the photopolymerizable composition on the supports and drying to form a photosensitive layer thereon (par.0228);

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- applying an aqueous solution of polyvinyl alcohol and dry to obtain a photosensitive lithographic printing plate (par.0229), wherein the polyvinyl alcohol solution forms an oxygen-impermeable protective layer (par. 0135-0136).

Claim 27 is a product-by-process claim.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The printing form of claim 27 is not different than the printing plate disclosed by Murota in par.0144-0158.

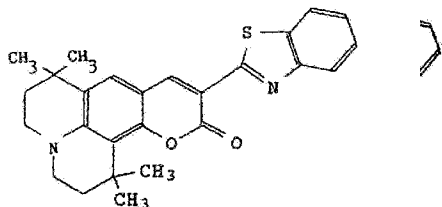
4. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazama et al. (EP 0 738 928 B1) in view of Faust (US Patent 4,019,972).

Kazama et al. disclose a visible-ray polymerizable composition comprising:

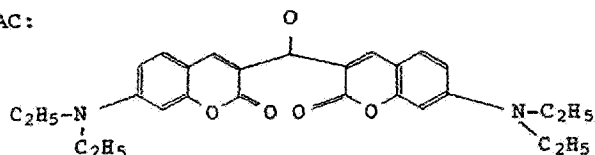
- a coumarin dye (par.0010), such as th

following formulas:

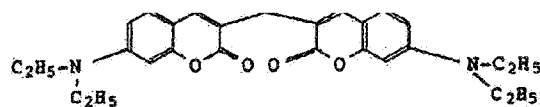
TBTC:



CDAC:



and



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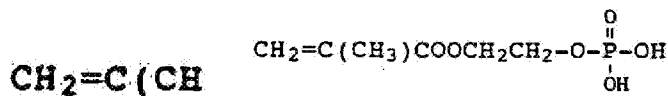
(compounds TBTC and CDAC on page 16). These compounds meet the limitations for the sensitizer represented by formula (I), being identical to the compounds (Ih) on page 12 and (Ij) on page 13 of the instant application.

Since the coumarin dyes of Kazama et al. are identical to the compounds (Ih) on page 12 and (Ij) on page 13 of the specification of the instant application and, absent a record to prove the contrary, it is the examiner's position that the sensitizers of Kazama et al. are able to form free radicals when exposed to radiation and only in the presence of a co-initiator. (MPEP 2112)

- diphenyliodonium salt compound (par.0010 and par.0030). The diphenyliodonium salts include chloride, bromide, tetrafluoroborate, hexafluorophosphate, hexafluoroarsenate, hexafluoroantimonate (par.0033).

Because the diphenyliodonium compounds of Kazama et al. are identical to the iodonium salts used as co-sensitizers in the instant application, as disclosed on page 14 of the specification and, absent a record to show the contrary, it is the examiner's position that the diphenyliodonium salts of Kazama et al. are unable to absorb imaging radiation but, in the presence of a sensitizer that is exposed to imaging radiation, form free radicals. (MPEP 2112)

- a polymerizable monomer (par.0011), such as



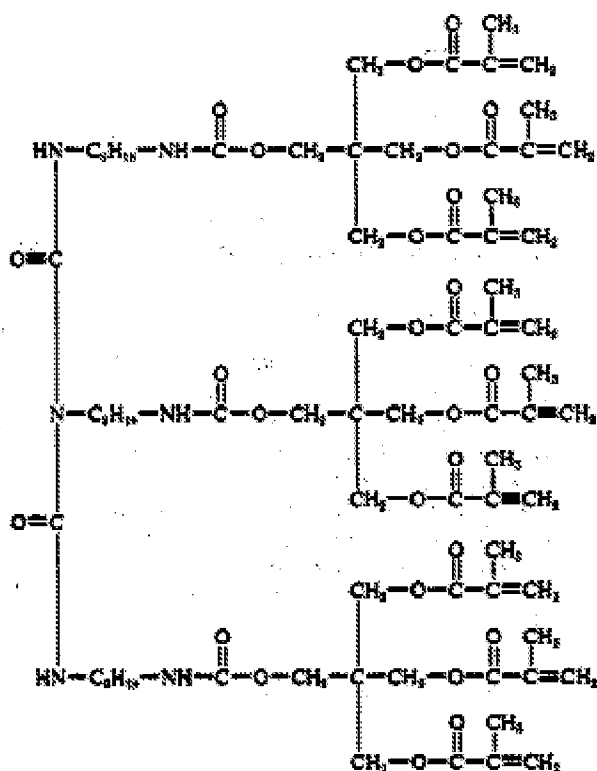
(page 11). This component is equivalent to the free-radical polymerizable monomer with at least one ethylenically unsaturated polymerizable group and at least one P-OH group.

- an organic solvent (par.0082).

However, Kazama et al. fail to disclose that the polymerizable composition comprises a biuret oligomer as required by the instant application.

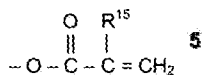
Faust discloses a photopolymerizable composition comprising at least one binder, one photoinitiator and at least one polymerizable acid amide group-containing acid derivative or alkyl acrylic acid derivative that contains two polymerizable groups in the molecule (abstract)

Faust specifically discloses a polymerizable monomer having the formula :



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(component (MVII) in columns 17-18), which is equivalent to the biuret oligomer represented by the formula (V) of the instant application, where  $Z_1$ ,  $Z_2$  and  $Z_3$  are  $C_9H_{18}$  groups,  $B_1$ ,  $B_2$  and  $B_3$  are independently groups represented by the formula (Va), where



$p=0$ ,  $q=1$ ,  $r=1$ ,  $s=1$  and  $R_{14}$  is a  $-\text{O}-\overset{\text{O}}{\underset{\cdot}{\text{C}}}-\overset{\cdot}{\text{C}}=\text{CH}_2$  group with  $R_{15}$  is a  $-\text{CH}_3$  group.

Due to the highly viscous photopolymerizable monomers having biuret groups contained therein, the composition yields layers which are distinguished by their non-volatility, resistance to handling and flexibility. The flexibility of the layers after exposure is not associated with excessive softness and cold-flow of the unexposed layer (column 5, lines 23-32).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to include the polymerizable monomers with biuret groups of Faust in the polymerizable composition of Kazama et al., in order to obtain compositions which are distinguished by their non-volatility, resistance to handling and flexibility (Faust, column 5, lines 23-32).

With regard to claim 25, Kazama et al. further disclose that the visible-ray polymerizable composition further comprises other polymerizable monomers than the ones having the phosphoric acid group, such as fumaric ester compounds, styrene and  $\alpha$ -methyl styrene derivatives, allyl compounds (par.0070). The composition also comprises fillers such calcium hydroxide, strontium hydroxide, zinc oxide, silicate glass and fluoroalumino-silicate glass (par.0077).

***Response to Arguments***

5. Applicant's arguments filed on November 15, 2007 have been fully considered but they are not persuasive.

Applicant initially argues that no one had found that by putting all of these components together, excellent adhesion to the aluminum substrates would be obtained. Applicant points to his comparative examples where nitric acid treated substrates were used and seek to show unobvious results when hydrochloric acid was used. It cannot be denied that Murota definitely points to using hydrochloric acid as the substrate treating component. Murota teaches hydrochloric acid so it would be expected that the same result as applicant gains would be expected.

On page 23 of the Remarks, the applicant argues that Murota teaches not only the use of hydrochloric acid for graining, as indicated by the previous Office Action but also teaches the use of nitric acid. The applicant is also showing that the examples of Murota show only the graining of the aluminum substrates using nitric acid.

However, the examiner would like to show that the use of hydrochloric acid is clearly taught by Murota (par. 0119-0120). In these paragraphs, Murota shows hydrochloric may be used as well as nitric acid.

The applicant is then arguing that Kazama et al. is a "dental adhesive publication", which refers to a photosensitive dental adhesive. Kazama et al. clearly indicate that the composition can also be used as photoresist or form plate for printing, as. in par.0001. That the composition may have other uses is of little consequence.



Applicant also argues that Kazama et al. disclose that the composition comprises monomer with carboxylic acid groups or phosphoric acid groups and no preference it is shown. However, the use of monomers with phosphoric acid groups is clearly disclosed by Kazama (par.0063-0064 and par.0066).

Applicant makes further argues that Kazama et al. does not disclose a chemistry that produces free radicals, as required by the instant application.

The examiner would like to show that the sensitizer (compounds TBTC and CDAC shown above in par. 3-4 of the Office Action) and diphenyliodonium salts and trihalomethyl substituted s-triazines disclosed by Kazama et al. are identical to the sensitizers (Ih) and (Ij) from pages 12 and 13 of the specification of the instant application, respectively to co-sensitizers disclosed on pages 14 and 17 of the instant application.

Therefore, the composition of Kazama et al. may act as a free-radical producing photosensitive composition, as required by the instant application.

The applicant is arguing that Faust et al. is directed to photocopying compositions that can be coated onto different supports, but particularly onto copper supports and there is no mention of an aluminum substrate that has been grained with hydrochloric acid.

The examiner would like to show that the composition of Faust et al. may be coated on aluminum substrates (column 7, line 28). Faust et al. further disclose that the composition may be used for relief printing forms, using a support such as aluminum (column 6, lines 17-19). Faust et al. specifically disclose the preparation of a printing

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plate comprising a step of coating a photosensitive composition onto electrolytically roughened and anodized aluminum (Example 7 in column 10, line 68-column 11, line 13 and Example 13, column 13, lines 47-60).

The applicant is arguing that the previous Office Action fails to address the level of skill in the art and shows that the lead inventor of the instant application Dr. Harald Baumann has a Ph.D. degree in Chemistry from the University of Merseburg of Applied Sciences in Merseburg/Germany. He review the cited art and taken a contrary view of the art than the previous Office Action.

Applicant notes that he does not believe the conclusions the examiner arrived at as they are not supported by technical reasoning. Also that one of ordinary skill in the art would not make the various leaps of combining the references to arrive at the claimed invention. The examiner respectfully disagrees. The conclusion is certainly based on technical reasoning as the prior art shows applicant compounds, which are all used in analogous types of compounds.

The primary reference of Murota broadly teaches components 1, 2 and 3 of instant claim 1. Therefore all the types of compounds except for the biuret compound are included by Murota. It is not far fetched to look to other prior art to show a specific polymerizable (and well known) monomer or sensitizer. Murota teaches a composition having an ethylenically unsaturated monomer, a sensitizer and a hexarylbiimidazole photoinitiator. Therefore, one of ordinary skill in the art would look to these types of compositions for specifically named compounds.

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Kazama et al. disclose a composition comprising ethylenically unsaturated monomers, a coumarine sensitizing dye and photoinitiators, said composition being used as resist and printing forms.

Faust et al. disclose a composition comprising a polymerizable monomer and photoinitiator, said composition being used for the production of printing plates

The examiner would like to point out the fact that all the components used in the radiation-sensitive compositions of the instant application have been successfully used in radiation-sensitive compositions for printing plates therefore one of ordinary skill in the art would have the motivation to combine the components, with a reasonable expectation of success.

On page 26 of the Remarks, the applicant is arguing that Murota et al. is teaching the use of either nitric acid or hydrochloric acid and the applicant have demonstrated that the use of nitric acid is undesirable.

It is the examiner's position that Murota et al. clearly teach the use of hydrochloric acid for the chemical graining of the aluminum substrate (par.0019-0120) so it would be expected that the same result as applicant gains would be expected.

On page 26 of the Remarks, the applicant argues that Kazama et al. does not give guidance in choosing between monomers with carboxylic acid groups and those with phosphate groups while the applicant did not find the carboxylic acid monomers useful.

However, Kazama et al. shows examples involving three monomers with acid groups, one of the tree monomers being a monomer with a phosphoric acid group (see table 2 in pages 32-36, wherein the monomer POH is defined on page 15).

The applicant is further arguing that a choice must be made to combine all of the chosen monomers, sensitizers, co-initiators and biuret monomers.

As shown above, all the components used in the radiation-sensitive compositions of the instant application have been successfully used in radiation-sensitive compositions for printing plates as disclosed by Murota, Kazama and Faust therefore one of ordinary skill in the art would have the motivation to combine the components.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anca Eoff whose telephone number is 571-272-9810.

The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AE

/Cynthia H Kelly/  
Supervisory Patent Examiner, Art Unit 1752